



The Cellar

The Official Newsletter of the Colonial Ale Smiths and Keggers

The Smiths ~ Homebrewer(s) of the Year!

Congratulations to John and Jared Smith for winning the 2011 CASK Homebrewer of the Year Award!



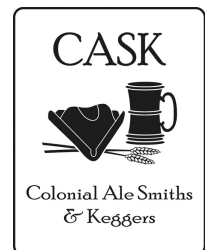
John and Jared will have their names added to the illustrious list of CASK brewers who have won the award over the years!

The final leader board was:

| | |
|----------------------|----|
| John and Jared Smith | 21 |
| Steven Davis | 19 |
| Warren Haskell | 13 |
| Cole Corbin | 12 |
| Phillip Vaughn | 8 |
| Walt Keeler | 6 |
| Harrison Gibbs | 5 |
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Build It!

By Bryan Falman

This month: A Stainless Steel Hop Spider!

When using a plate chiller to cool your wort, it is very important to keep as much hop matter out of the chiller as possible to prevent blockages and hard-to-clean deposits. In the past I have used a hop-back with a stainless steel scrub pad as the filter medium to good effect; however, the pellet hops used for in brewing the barrel-aged old ale clogged the hop-back. I then started using 5-gallon nylon paint strainer bags clipped to the side of the boil kettle, but inevitably the opening gets submerged, and it becomes a pain to add hops for each edition.

Searching the internet comes up with several designs for hop spiders, which are used to suspend a bag or basket in the boil kettle to contain the hops inside. Most designs use a PVC pipe coupling, a hose clamp, and a paint strainer bag. When using the paint strainers, I found that they were harder to clean than I wanted, so I elected to build one out of stainless steel mesh.

Part List

| Item | Part | Source |
|------|---|---|
| 1 | 8"x2" stainless steel round pastry ring | Amazon.com |
| 2 | 316 stainless steel wire mesh, 30x30 mesh, 36" wide, length depends on kettle | McMaster-Carr (P/N 9319T531 – cut to length) |
| 3 | 18-8 stainless steel, 1/8" diameter blind rivets | McMaster-Carr (P/N 97525A415) |
| 4 | 18-8 stainless steel, 1/8" blind rivet washers | McMaster-Carr (P/N 90183A311) |
| 5 | 316 stainless steel threaded stud, 3/8"-16 x 6" | McMaster-Carr (P/N 90575A650) |
| 6 | 3/8"-16 stainless steel hex nut | Local hardware store |

Assembly

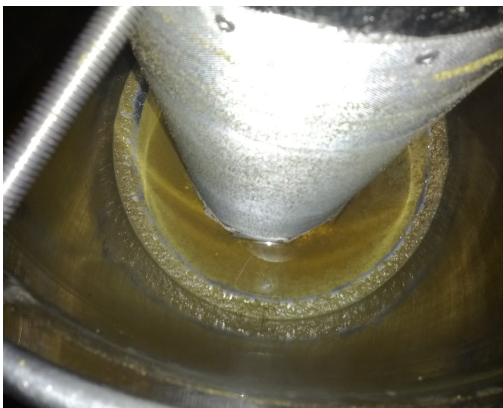
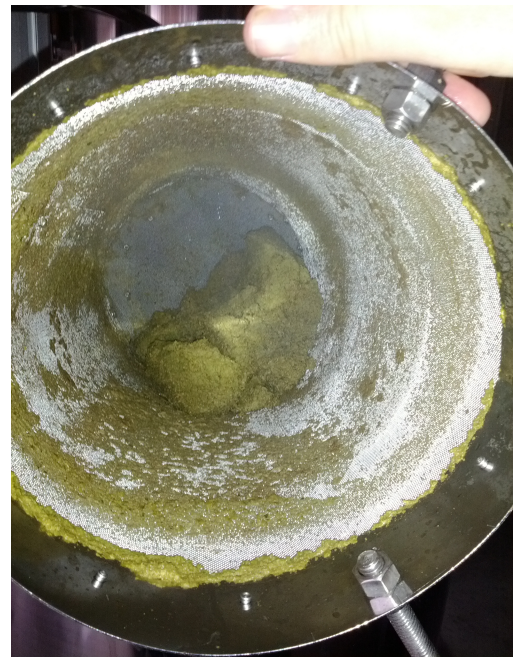
1. Cut the stainless steel mesh to match the circumference of the pastry ring and the desired length using tin-snips. Save the excess mesh to form the bottom of the basket.
2. Drill three 3/8" holes approximately 120° apart and 0.5" from the top of the pastry ring.
3. Clamp the mesh so there is approximately 1" overlap of the mesh and pastry ring.
4. Drill 1/8" holes every few inches through the mesh and pastry ring, then rivet the two together.
5. Drill a line of 1/8" holes down the overlap of the mesh and rivet together.





6. Cut a circle about 1" larger than pastry ring from the remaining mesh, then cut the mesh every inch or two to form tabs.
7. Rivet the bottom piece into place.
8. Secure the threaded rod to the pastry ring using one hex nut on each side of the ring.
9. Use one additional nut on each threaded rod to center the hop spider in the boil kettle.

I used my hop spider for the first time when brewing the CASK barrel IPA, which included 7.5oz of pellet hops for a 10gal batch. While by no means containing all of the hop matter in the spider, the vast majority (about 2" deep) remained in the hop spider. Clean up was also incredibly easy, after dumping the hop matter on the compost heap, the hop spider was easily clean by spraying it down with water. If you're looking for a good way to contain the hops on your next brew, consider building a hop spider.





Propane Burner Boil-off

By Jeff Flamm

One of the most time-consuming activities on brew day (besides cleaning) is waiting for your sparge water and wort to heat. In order to improve on this, I have upgraded my burner several times over the years that I have been homebrewing. I started out using the side burner on my propane grill. When I graduated to full boils, I began using a propane King Kooker jet burner. I soon upgraded to a Camp Chef propane burner with a 4 inch cast iron burner which significantly improved the time to boil a pot of wort. Most recently, I purchased a Bayou Classic model KAB6 which features a 10 - inch Banjo burner in the hope to further increase the speed at which I could heat water or wort. I thought it might be instructive to do a "Boil - off" competition between the three different propane burners I have (see the sidebar for model specific info).

This is not really a scientific experiment since I could not control for all possible variables. It is more of real world test of just how long it takes to boil some water as one might do as a homebrewer.

I did control a few elements of the trial. I started each burner with a full propane tank. The boil vessel was a Blichman 10-gallon kettle with 6.5 gallons of 68 deg F tap water. I leveled the burner and kettle and marked the water line on the kettle sight gauge. I topped up the water back to the same mark on the sight gauge between each trial to account for any water loss (generally about 2 cups loss). I used my immersion wort chiller between each trial to cool the water back down to 68 deg F.

I used an iCelsius Pro temperature probe connected to an iPhone 4 to monitor water temperature. The software used was iCelsius v 1.2.8 running on iOS 5.1. The manufacturer states the probe is accurate to ± 1.8 deg F with a response time in water of less than 10 seconds. The data points were sampled at 2 Hz and averaged over 10 second intervals. I also weighed each propane tank at start and finish of boil using a Rapala hanging type scale (model RTDS-50, no accuracy data cited).

I set each burner flame, as I would on a normal brew day. I adjusted the propane regulator and air intake for the burner to get an even blue flame that just covered the base of the pot at the start of each trial and then did not adjust the flame any further.

I found the results rather surprising (Figure 1). I expected the Bayou Classic with banjo burner (rated at 210k

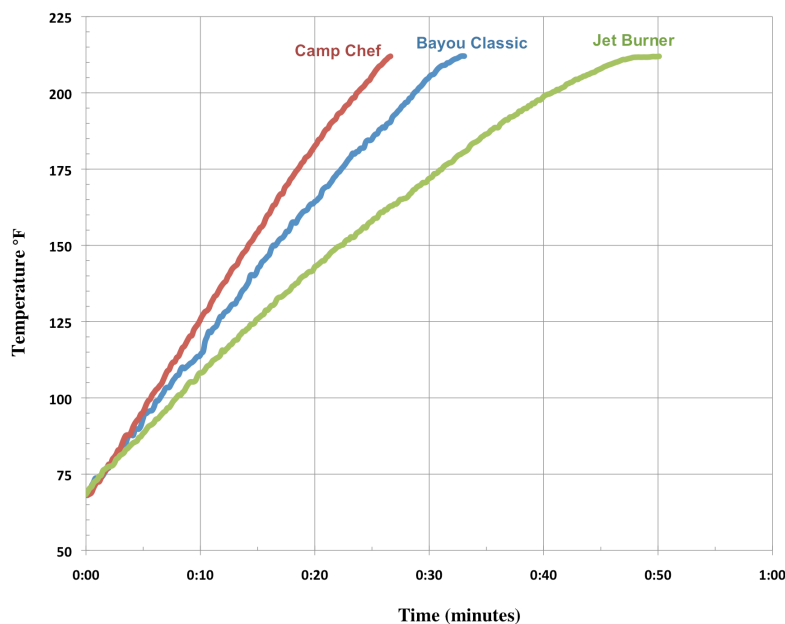


Figure 1: Performance of various propane burners heating 6.5 gallons of water.

BTU) to be significantly faster than my other burners. It brought the water to boil in about 33 minutes. However the smaller Camp Chef stove (rated at 75k BTU) boiled water in about 27 minutes. I knew from experience the King Kooker jet burner (rated at about 105k BTU) was much slower. It took just over 50 minutes to boil the water with the jet burner.

The Bayou Classic proved to be the most inefficient of the three burners in terms of propane use as well (Table 1). It used over twice as much fuel as the Camp Chef. The Bayou Classic used over 50 percent more fuel than the Jet Burner even though the Jet burner ran 17 minutes longer.

This was my first time using the Bayou Classic KAB6. I found it to be very sensitive to air



intake and gas setting. It was difficult to set at first, but I once I found a good air intake setting, the flame was stable. I have used the other two burners for several years and have pretty good feel for adjusting them.

One observation about the Bayou Classic : it was very hot (definitely heed all the manufacturer safety warnings about keeping away from structures, children, pets, etc...). I initially tried taking a few check temperatures by holding an instant read thermometer in the pot periodically. I could not hold the thermometer very long and soon gave up as the heat coming up around the pot was too intense. I did not have this problem with the other two burners. I also had to adjust my setup for the temperature probe due to the heat coming up around kettle as I was afraid it was going to melt the cable on the temperature probe. I ended up shielding the temperature probe lead with a piece of wood (see figure 2).



Figure 2: Boil test setup

The Bayou Classic may have been losing some efficiency since so much heat was rising up around the pot as mentioned above. Further, the Bayou Classic does not have much of a windshield around the burner (nor does the jet burner), whereas the Camp Chef does. There was a light breeze on the day I conducted the trial which may have had some impact on burner performance. The breeze may also be responsible for some of the wiggles in the performance curve of the Bayou Classic, the largest of which is at about the 10 minute mark. I plan to conduct a repeat trial or two on the Bayou Classic with banjo burner as I gain a little more experience with it to see if I can improve the performance. It would likely benefit from a larger wind/heat shield as well. The shield only extends up around the burner about 1 inch and the burner is 4 1/4 inches from the base of the kettle.



Model: King Kooker Jet Burner 90B

BTU: ~105k

Burner style: orifice with jet tube and flame shield

Diameter: 16 3/4 inches

Weight: 9.0 Lbs

Distance from burner head to base of kettle: 2 inches

Windshield: No

Regulator: 10 PSI with 32 inch hose

Base: Fixed Tripod

Other notes: lack of windshield really hinders performance on a breezy day, can hold a keggle made from smaller European style 50L keg

Similar model available at Amazon.com for about \$50

| | |
|---------------|------|
| Bayou Classic | 3.11 |
| Camp Chef | 1.41 |
| Jet Burner | 1.99 |

Table 1: Propane Usage (lbs)



Model: Camp Chef SHP-RL
BTU: 55K
Burner style: 4-inch
Height: 15 ¾ inches
Diameter: 15 inches
Weight: 13.6 Lbs
Windshield: Yes
Regulator: 10 PSI with 28 inch hose
Base: Removable 4-leg
Other notes: The removable legs make for compact storage; will not safely hold a keggel

Similar model available at amazon.com for about \$55

So for now the winner is the Camp Chef both in terms of speed to boil, propane used, as well as price. The Camp Chef is about half the price of the Bayou Classic and about the same price as the Jet Burner. One drawback of the Camp Chef is that it will not hold a keggel. Stay tuned for a trial with a Blichman Top Tier burner in a future issue.

Prost,
Jeff



Model: Bayou Classic KAB6
Burner: 10-inch Banjo
BTU: ~210K
Height: 12.5 inches
Diameter: 22 inches
Weight: 34.9 Lbs
Windshield: No
Distance from burner head to base of kettle: 4 ¼ inches
Regulator: 30 PSI with 48 inch hose
Base: Fixed 4-leg
Other notes: Very solid – will easily hold a keggel, instructions in the box where for a different model burner

Currently available at northernbrewer.com for about \$99



Barrel Brew Recipes

These are the recipes for two of the CASK barrel brews.

Barrel English IPA (English IPA)

Type: All Grain

Batch Size (fermenter): 6.00 gal

Boil Size: 7.56 gal

Boil Time: 60 min

End of Boil Volume 7.02 gal

Brewhouse Efficiency: 72.00 %

Final Bottling Volume: 5.60 gal

Est Mash Efficiency 81.0 %

Grist

Quantity Malt Type (% of Grain Bill)

7 lbs Pale Malt (2 Row) UK (3.0 SRM) (51.9 %)

3 lbs 8.0 oz Munich Malt - 10L (10.0 SRM) (5.9 %)

1 lbs Biscuit Malt (23.0 SRM) (7.4 %)

1 lbs Caramel/Crystal Malt - 40L (40.0 SRM) (7.4 %)

8.0 oz Caramel/Crystal Malt - 80L (80.0 SRM) (3.7 %)

8.0 oz White Wheat Malt (2.4 SRM) (3.7 %)

Hops

Quantity Time (IBUs)

1.00 oz - Northdown [8.50 %] - First Wort 60.0 min (25.9)

1.00 oz - Northdown [8.50 %] - Boil 60.0 min (23.6)

0.50 oz - Fuggles [4.50 %] - Boil 30.0 min (4.8)

0.50 oz - Fuggles [4.50 %] - Boil 10.0 min (2.3)

0.50 oz - Fuggles [4.50 %] - Boil 0.0 min (0.0)

0.25 oz - Goldings, East Kent [5.00 %] - Boil 0.0 min (0.0)

Yeast

1.0 pkg - SafAle English Ale (DCL/Fermentis #S-04) [23.66 ml]

Est Original Gravity: 1.058 SG

Est Final Gravity: 1.013 SG

Estimated Alcohol by Vol: 6.0 %

Bitterness: 70.6 IBUs

Calories: 151.6 kcal/12oz

Est Color: 13.1 SR

Smoked Rye Porter (Robust Porter)

Type: All Grain

Batch Size (fermenter): 6.00 gal

Boil Size: 7.37 gal

Boil Time: 60 min

End of Boil Volume 6.24 gal

Brewhouse Efficiency: 75.00 %

Final Bottling Volume: 5.25 gal

Est Mash Efficiency 87.5 %

Grist

Quantity Malt Type (% of Grain Bill)

8 lbs 8.0 oz Pale Malt (2 Row) US (2.0 SRM) (57.1 %)

1 lbs 8.0 oz Munich Malt - 10L (10.0 SRM) (10.1 %)

1 lbs 8.0 oz Smoked Malt (9.0 SRM) (10.1 %)

1 lbs Caramel/Crystal Malt - 40L (40.0 SRM) (6.7 %)

1 lbs Rye Malt (4.7 SRM) (6.7 %)

8.0 oz Chocolate Malt (450.0 SRM) (3.4 %)

8.0 oz Chocolate Rye Malt (250.0 SRM) (3.4 %)

6.1 oz Roasted Barley (300.0 SRM) (2.6 %)

Hops

Quantity Time (IBUs)

0.75 oz Fuggles [4.50 %] - Boil 60.0 min (11.2)

0.75 oz Northern Brewer [8.50 %] - Boil 60.0 min (21.2)

0.25 oz Fuggles [4.50 %] - Boil 15.0 min (1.0)

0.25 oz Northern Brewer [8.50 %] - Boil 15.0 min (1.9)

0.25 oz Fuggles [4.50 %] - Boil 0.0 min (0.0)

0.25 oz Northern Brewer [8.50 %] - Boil 0.0 min (0.0)

Yeast

1.0 pkg SafAle English Ale (DCL/Fermentis #S-04) [23.66 ml]

Est Original Gravity: 1.065 SG

Est Final Gravity: 1.014 SG

Estimated Alcohol by Vol: 6.7 %

Bitterness: 35.2 IBUs

Calories: 151.6 kcal/12oz

Est Color: 29.9 SRM



CASK Member Profile: Cole Corbin



Full Name: Cole Kohei Corbin

Hometown: Sapporo, Japan

Town of Residence: Williamsburg, Virginia

Occupation: Research Engineer at NASA

Years Brewing: 4 years

Favorite Beers to Brew: Belgian and German Styles.

Favorite Commercial Brew: Drie Fonteinen Oude Geuze

Favorite Brew Pub or Beer Bar: The Birch, Norfolk.

How did you started brewing?: A friend of mine and I started talking about it one day and the rest is history.

Type of Brewing (Extract, Partial Mash, All-Grain): All-Grain

Why do you brew?: For me, brewing is a creative outlet that balances with my science and engineering (boring) background. Brewing relaxes me while at the same time stresses me out; it's great!

Awards, Beer Related Associations, etc: A few awards here and there..., I'm a member of the AHA.

The CASK Calendar of Club Events and Competitions

Plan your brewing schedule now and hit as many club-only and other competitions as possible.

March - Belgian Golden Strong

April - Porters (**Scottish & Irish Ales COC**)

May - Club Party! (**Iron Brew** - Any beer with **Saison Yeast**)

June - Light Hybrid

July - Cider (**Porter COC**)

August - TBD

September - Oktoberfest (**Iron Brew** - **Brown Ales**) and (**Light Hybrid COC**)

October - TBD

November - TBD

December - Wine

Calendar looking empty?

You, yes you, can add items to the CASK calendar and keep your fellow club members informed about beer-related happenings in the area!

Just E-mail information about the event to calendar@colonialalesmiths.org

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